On the Torpidity of the Marmot. By G. Valentin.

The object of this memoir of M. Valentin is to examine the influence of the winter-sleep upon the production of glucose by the liver. During an abstinence from food of five or six months, the sugar is persistent in the liver of the Marmot; from this it follows that there is an essential difference between the true winter-sleep of the Marmot and the torpidity of the Batrachia, or the state of inanition of waking animals.

When, as is sometimes the case, the death of the animal is caused by exhaustion at the end of the winter-sleep, the liver no longer contains sugar. The same fact is observed in Hedgehogs which have died during their winter-sleep. On the contrary, when a healthy Marmot, killed at the end of its torpidity, is examined, it is found that the fresh blood of the aorta and the fresh urine will precipitate small quantities of protoxide of copper, showing that they contain glucose.

Some authors have expressed the opinion that the liquid secreted by the stomach is absorbed, and that after passing through the vena porta, it produces sugar in the liver. M. Valentin opposes this view, and cites several facts which speak against it.

The author has observed a striking difference between the sugar of the liver of Marmots in their winter-sleep and that of other waking animals; the former is not so readily destroyed by putrefaction as the latter.

In conclusion he cites an observation made upon some frogs which had passed four months of the winter in a dark cellar. They were frozen by exposure to a temperature of $+5°$ F.; the sugar of their livers did not disappear.—*Moleschott's Untersuchungen*, vol. iii.

Description of Aphroceras, *a new genus of Calcareous* Spongiadæ *brought from Hong-Kong by Dr. Harland.* By Dr. J. E. Gray, F.R.S. &c.

Aphroceras.

Sponge tubular, branched, without any large superficial oscules, formed of two distinct coats, externally covered with simple fusiform calcareous spicula, placed side by side in the longitudinal axis of the stem and branches, forming an even coat; inner surface of the tube lined with a minute network of interlaced fibre placed in all directions; branches simple, tapering, attenuated at the tip, with a round terminal contracted aperture.

The spicula are entirely dissolved in dilute muriatic acid, leaving the form of the sponge marked by the internal network and the sheaths of the spicula on the surface. When treated with caustic potash, the internal network is destroyed, leaving only the external spicula placed side by side.

This genus is allied to *Grantia*, but it is easily distinguished by the uniform fusiform shape and the disposition of the spicula.

APHROCERAS ALCICORNIS.

Hab. Hong-Kong (*Dr. Harland*).

This species somewhat resembles *Grantia botryoides* in appearance and habit; but in that species the spicula are all *triradiate*, which appears to be the generic character of the genus *Grantia* as I propose to restrict it.—*Proc. Zool. Soc.* Feb. 23, 1858.

On the Hypermetamorphosis and Habits of Sitaris. By M. FABRE.

M. Fabre has been engaged in the investigation of the habits and metamorphosis of *Sitaris*, a genus of Coleopterous insects nearly allied to *Meloë*; the latter, as is well known, was the subject of some of the admirable investigations of the late George Newport. Singularly enough, M. Fabre was quite ignorant of the memoir of the great English physiologist, up to the time of his reading his own paper before the Academy of Sciences. The principal facts in the latter are summed up by the author in the following words:—

"The species of *Sitaris* and *Meloë*, and apparently other *Meloïdes*, if not all, are, in their early stages, parasitic on Anthophilous Hymenoptera.

"The larva of the *Meloïdes*, before arriving at the pupa state, passes through four forms, which the author denominates *primitive larva*, *second larva*, *pseudo-chrysalis*, and *third larva*. The passage from one of these forms to the other is effected by a simple change of skin, without any alteration in the viscera.

"The *primitive larva* is coriaceous, and takes up its abode on the bodies of Hymenopterous insects. Its object is to get transported into a cell full of honey. When it reaches the cell, it devours the egg of the Bee, and its part is performed. This is the active hexapod larva, described by Newport and other observers as the first product of the egg in *Meloë*.

"The *second larva* is soft, and differs entirely from the primitive larva in its external characters. It feeds upon the honey contained in the usurped cell.

"The *pseudo-chrysalis* is a body destitute of all movement, and clothed with corneous integuments comparable to those of pupæ. On these integuments there are the design of a cephalic mask, without moveable and distinct parts, six tubercles indicating the feet, and nine pairs of stigmatic orifices. In *Sitaris* the pseudo-chrysalis is enclosed in a sort of sac formed by the skin of the second larva. In *Meloë* it is simply half invaginated in the cleft skin of the second larva.

"The *third larva* exhibits nearly the same characters as the second. In *Sitaris* it is enclosed in a double vesicular envelope formed by the skin of the second larva and that of the pseudo-chrysalis. In *Meloë* it is half-enclosed in the cleft skin of the pseudo-chrysalis, which, in its turn, is inserted in the same way into that of the second larva.

"After this, the metamorphosis follows the usual course; the third larva becomes a pupa, and the latter a perfect insect."—*Comptes Rendus*, March 1, 1858, p. 443.